UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 21

U. S. Naval Observatory, Washington 25, D. C. August 9, 1950

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS

MAY–JUNE, 1950

By Lucy T. Day

These results are based upon measurements made at the Naval Observatory on plates secured either there or at the Mt. Wilson Observatory. The symbols used for the entries in the successive columns are as follows:

U.T., the epoch of observation in Universal Time.
No., the identifying number of the group assigned by Mt. Wilson.
Δl, the heliographic difference in longitude from the central meridian, measured positive to the west.
φ, the heliographic latitude, measured positive to the north.
ρ, the heliocentric angular distance from the line joining the centers of the Earth and Sun.
A, the true area of the umbra plus penumbra, expressed in millionths of the visible hemisphere.
s, the number of spots.

An asterisk means that no Mt. Wilson number was assigned. Plates secured at the Naval Observatory are indicated by N, and those at Mt. Wilson by W. The plate quality, which follows, is indicated by:

1, Poor; 2, Fair; 3, Good; 4, Very Good; 5, Excellent.

The following five quantities are listed successively at the end of each day, and give for that day:

1. The total number of groups, g.
2. The longitude of the central meridian, L_0.
3. The latitude of the center of the disc, B_0.
4. The total value of A.
5. The total value of s.

The mean daily area and the mean relative sunspot number, $r=10g+s$ are given at the end of the month.

These results are a continuation of those published in the *Monthly Weather Review* from February 1, 1927 to December 31, 1947.

MAY

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
1.663	10327	−70	+16	73	73	10
N−3	10325	−47	+12	50	12	1
	10325	−38	+12	42	121	1
	10324	−29	+15	35	339	8
	10324	−24	+13	29	48	1
	10324	−22	+13	28	97	1
	10323	− 6	+27	31	194	2
	10326	+ 6	−11	9	97	5
	10321	+13	−21	22	218	2
	10322	+25	−10	25	73	5
	10318	+34	− 1	34	145	1
	10314	+53	−11	53	145	16
	10314	+58	−11	58	48	4
	10314	+62	−10	62	679	1
	10312	+75	−18	75	73	2
	10312	+85	−16	85	291	2
	(10)	(54)	(−4)		2653	62
3.969	10329	−73	+ 8	75	12	1
W−2	10327	−41	+15	45	97	4
	10327	−37	+17	43	145	17
	10325	− 7	+12	17	145	1
	10324	+ 3	+14	17	194	14
	10324	+ 9	+12	18	48	3
	10324	+11	+13	21	145	1
	10323	+25	+27	32	48	4
	10326	+35	−12	36	24	5
	10326	+42	−12	43	48	8
	10324	+42	−22	44	145	1
	10328	+45	+14	48	24	1
	10318	+63	− 3	63	109	2
	(9)	(23)	(−4)		1184	62
4.743	10329	−60	+ 8	62	97	4
N−3	10327	−31	+17	37	97	5
	10327	−27	+18	34	121	4
	10327	−25	+17	32	73	1
	10325	+ 4	+12	17	97	1
	10324	+13	+15	23	206	7
	10324	+21	+14	27	339	3
	10323	+36	+27	47	24	1
	10326	+51	−12	51	97	5
	10321	+53	−22	53	145	3
	10318	+75	− 2	75	145	1
	(8)	(13)	(−4)		1441	35
5.692	10330	−70	+ 6	71	24	4
N−2	10329	−48	+ 7	49	48	3
	10327	−19	+15	25	145	1
	10327	−18	+18	28	121	6
	10327	−11	+17	23	97	1
	10325	+16	+12	22	97	1
	10324	+23	+18	31	85	4
	10324	+27	+15	32	194	5
	10324	+31	+14	36	242	3
	10324	+37	+13	41	364	4
	10326	+65	−12	65	73	7
	10321	+69	−21	69	97	1
	(7)	(1)	(−4)		1587	40
6.726	10332	−77	+ 6	78	485	2
N−2	10330	−57	+ 7	58	24	1
	10329	−32	+ 7	34	48	1
	10327	− 5	+15	20	73	2
	10327	− 2	+18	22	97	16
	10327	+ 2	+17	21	73	13
	10325	+30	+12	34	97	1
	10331	+40	−14	41	24	1
	10324	+40	+13	43	145	4
	10324	+42	+13	45	121	1
	10324	+47	+11	49	170	3
	10324	+47	+13	48	145	3
	10324	+50	+12	52	388	2
	10321	+80	−22	80	97	2
	(8)	(347)	(−4)		1987	52
7.644	10332	−64	+ 6	65	24	6
N−3	10332	−63	+ 6	64	654	1
	10330	−45	+ 7	47	12	2
	10329	−19	+ 7	23	24	2
	10327	+ 8	+17	22	61	2
	10327	+12	+18	24	97	7
	10327	+16	+17	27	48	4
	10325	+42	+14	45	36	1
	10324	+52	+14	55	73	6
	10324	+59	+14	61	436	4
	10324	+62	+13	65	485	1
	10331	+54	−12	54	97	8
	10333	+75	+ 2	76	97	3
	(8)	(335)	(−4)		2144	47
8.636	10332	−51	+ 6	52	776	1
N−3	10332	−50	+ 4	50	24	3
	10329	− 8	+10	17	12	1
	10329	− 5	+ 8	13	12	1
	10334	+18	−19	23	97	6
	10327	+21	+17	29	61	2
	10327	+22	+19	31	36	1
	10327	+28	+17	35	97	3
	10335	+27	−12	29	12	1
	10325	+56	+13	58	36	1
	10331	+61	−15	63	97	1
	10331	+65	−14	65	145	3
	10331	+70	−13	70	97	3
	10324	+68	+16	69	194	1
	10324	+73	+15	74	291	4
	10324	+79	+14	80	485	2
	(8)	(322)	(−3)		2472	34
9.643	10332	−39	+ 7	40	145	4
N−2	10332	−38	+ 6	39	582	1
	10330	−24	+ 8	26	12	4
	10336	− 7	+15	20	12	2
	10337	+ 3	−12	10	48	3
	10329	+ 5	+ 9	12	24	1
	10334	+32	−19	35	145	8
	10327	+36	+19	42	36	2
	10331	+76	−14	76	97	4
	10331	+79	−12	79	194	1
	(8)	(308)	(−3)		1295	30
10.681	10338	−80	+ 9	80	97	3
N−3	10338	−79	+11	79	194	1
	10332	−25	+ 7	27	157	4

MAY

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	10332	−23	+ 6	25	485	1
	10339	+ 1	− 3	1	24	1
	10337	+17	−11	19	48	6
	10334	+45	−19	46	73	7
	(5)	(295)	(−3)		1078	23
11.637	10338	−68	+11	68	97	2
N−2	10338	−64	+11	65	242	1
	10332	−16	+12	22	97	5
	10332	−10	+ 8	15	218	12
	10332	− 9	+ 7	13	388	1
	10332	− 7	+ 8	12	12	3
	(*)	−11	− 5	11	6	1
	10339	+15	− 4	15	12	1
	10337	+30	−11	31	36	3
	10334	+59	−19	61	48	2
	(6)	(282)	(−3)		1156	31
12.588	10338	−55	+11	57	48	2
W−3	10338	−51	+10	53	194	1
	10338	−50	+11	52	24	1
	10332	− 2	+11	14	145	19
	10332	+ 1	+ 7	10	170	16
	10332	+ 3	+ 7	11	388	1
	10334	+71	−19	71	48	8
	10335	+78	−15	78	16	2
	(4)	(269)	(−3)		1033	50
13.717	10338	−40	+10	42	12	1
N−2	10338	−36	+ 9	38	194	1
	10342	−30	+15	35	12	2
	10332	+11	+10	17	48	2
	10332	+15	+ 8	19	73	4
	10332	+18	+ 6	21	315	1
	10340	+45	+10	46	24	1
	10340	+50	+10	52	24	1
	(4)	(255)	(−3)		702	13
14.686	10338	−25	+ 9	27	24	5
N−2	10338	−23	+ 8	25	194	1
	10342	−18	+15	25	48	4
	10332	+24	+11	28	61	4
	10332	+28	+ 7	30	61	1
	10332	+31	+ 6	32	315	1
	(*)	+46	+ 5	47	12	1
	(4)	(242)	(−3)		715	17
15.730	10338	− 9	+ 9	15	194	1
N−2	10332	+43	+ 8	44	61	5
	10332	+45	+ 6	46	315	1
	10343	+51	− 5	51	12	4
	(3)	(228)	(−3)		582	11
16.699	10345	−80	−15	80	48	3
N−2	10344	−75	−18	75	61	5
	10344	−70	−17	70	24	1
	10338	0	+11	14	6	1
	10338	+ 4	+ 9	12	194	1
	10332	+56	+ 9	58	48	4
	10332	+58	+ 6	59	315	1
	10343	+62	− 3	62	24	1
	(5)	(215)	(−3)		720	17
17.647	10347	−88	−11	88	291	1
N−2	10345	−73	−17	73	48	2
	10345	−67	−15	68	145	1
	10344	−65	−17	67	121	15
	10344	−58	−18	60	145	5
	10338	+17	+ 9	21	194	1
	10346	+28	− 8	28	36	6
	10332	+70	+ 6	70	267	1
	10343	+75	− 4	75	48	7
	(7)	(203)	(−2)		1295	39
18.660	10347	−74	−11	74	582	1
W−4	10345	−61	−17	63	48	8
	10345	−57	−16	58	48	4
	10345	−54	−15	55	291	7
	10344	−51	−18	53	48	10
	10344	−47	−17	49	12	4
	10344	−44	−17	45	97	4
	10348	−35	−14	37	12	2
	10348	−31	−15	34	6	2
	10338	+31	+ 9	33	194	1
	10346	+41	− 8	41	36	7
	10346	+44	− 8	44	48	8
	10332	+84	+ 6	84	242	1
	10343	+88	− 4	88	24	2
	(8)	(189)	(−2)		1688	61
19.743	10350	−88	+ 8	88	194	1
N−2	10347	−59	−11	60	485	2
	10345	−45	−18	47	24	6
	10345	−39	−15	41	291	2
	10344	−36	−17	37	12	1
	10344	−29	−17	32	61	1
	10348	−19	−14	23	73	6
	10348	−17	−15	22	97	8
	10338	+45	+11	46	194	1
	10346	+55	− 7	55	97	4
	10346	+59	− 6	59	97	6
	10349	+64	+15	65	48	1
	10349	+69	+16	70	48	1
	(8)	(175)	(−2)		1721	40
20.672	10350	−86	+ 9	86	194	1
N−2	10350	−80	+10	80	145	1
	10350	−79	+11	79	48	1
	10350	−75	+ 7	76	48	1
	10350	−70	+ 8	71	291	1
	10347	−45	−11	46	485	2
	10345	−26	−16	28	48	5
	10345	−25	−15	27	194	4
	10345	−23	−16	26	6	1
	10344	−16	−17	22	73	1
	10348	− 7	−14	14	48	5
	10348	− 4	−15	15	97	2
	10338	+58	+10	59	194	1
	10346	+72	− 6	72	24	1
	10349	+80	+15	81	97	2
	(3)	(163)	(−2)		1992	29

MAY

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
21.740	10350	−72	+ 9	73	291	1
N−2	10350	−65	+ 9	66	145	1
	10350	−63	+ 9	64	339	2
	10350	−60	+ 7	61	194	2
	10350	−57	+ 8	58	194	1
	10347	−32	−11	33	388	3
	10345	−10	−11	13	12	1
	10345	−10	−14	15	194	12
	10344	− 2	−18	16	73	2
	10348	+ 8	−14	15	73	2
	10348	+13	−15	18	97	1
	10338	+72	+11	73	194	1
	10338	+77	+12	77	12	1
	(6)	(148)	(−2)		2206	29
22.640	10350	−61	+ 9	62	339	2
N−3	10350	−54	+ 9	55	61	8
	10350	−50	+ 9	51	436	6
	10350	−47	+ 8	48	97	9
	10350	−44	+ 8	45	194	1
	10347	−21	− 9	22	97	1
	10347	−19	−11	21	291	5
	10352	−24	+16	30	24	1
	10351	− 4	+19	21	48	5
	10345	+ 3	−14	12	48	6
	10345	+ 5	−14	14	61	1
	10354	+ 7	+21	24	12	2
	10344	+12	−18	21	48	1
	10348	+26	−16	30	24	1
	10348	+20	−15	23	24	10
	10338	+85	+10	85	194	1
	(9)	(136)	(−2)		1998	60
23.664	10355	−80	+12	80	145	1
N−3	10350	−47	+ 9	48	315	1
	10350	−40	+10	42	97	7
	10350	−35	+ 9	36	436	8
	10350	−31	+ 8	33	48	2
	10350	−29	+ 8	31	194	1
	10352	− 9	+16	20	48	2
	10347	− 8	− 9	11	97	1
	10347	− 7	−11	12	242	2
	10351	+10	+ 9	15	267	8
	10345	+11	−16	17	12	5
	10345	+18	−14	22	97	4
	10354	+21	+21	32	24	7
	10344	+26	−18	30	48	1
	10348	+32	−16	33	12	6
	10348	+38	−16	40	12	1
	(9)	(123)	(−2)		2094	57
24.640	10356	−70	+32	73	97	2
N−2	10355	−64	+12	66	145	1
	10350	−33	+ 9	34	291	2
	10350	−27	+10	30	73	5
	10650	−21	+10	24	436	8
	10350	−16	+ 9	19	194	2
	10347	+ 7	− 9	10	97	3
	10347	+ 8	−11	12	194	2
	10357	+20	+27	35	36	2
	10351	+20	+20	29	436	6
	10351	+26	+19	34	533	1
	10345	+31	−14	33	61	1
	10354	+32	+20	38	12	2
	10344	+39	−17	41	48	1
	10348	+47	−14	49	6	1
	10348	+51	−15	53	6	1
	(10)	(110)	(−2)		2665	40
25.577	10358	−61	−15	62	12	3
W−4	10356	−59	+33	65	242	1
	10356	−55	+32	61	36	1
	10356	−53	+31	60	36	10
	10355	−52	+12	53	61	1
	10350	−19	+ 9	21	242	12
	10350	−14	+10	18	170	20
	10350	− 8	+ 9	12	145	30
	10350	− 5	+ 9	11	194	6
	10350	− 4	+ 8	10	218	1
	10347	+19	− 9	20	61	1
	10347	+21	−11	23	194	5
	10351	+32	+19	37	364	1
	10351	+37	+16	40	73	26
	10351	+40	+15	43	485	5
	10357	+34	+26	42	12	9
	10357	+37	+22	43	24	3
	10345	+43	−15	45	48	6
	10344	+51	−17	53	24	1
	(9)	(98)	(−1)		2641	142
26.653	10356	−46	+31	54	194	1
N−3	10356	−39	+29	48	24	1
	10355	−38	+12	40	48	1
	10350	− 4	+ 9	11	242	9
	10350	+ 5	+10	12	291	26
	10350	+10	+ 7	13	6	3
	10350	+11	+ 9	15	436	1
	10347	+33	− 9	34	48	1
	10347	+35	−11	37	194	1
	10351	+45	+20	49	364	1
	10351	+48	+19	51	12	4
	10351	+53	+16	55	485	3
	10357	+47	+24	51	12	3
	10357	+50	+23	55	97	1
	10345	+50	−19	52	48	1
	10345	+58	−15	58	12	4
	10344	+66	−17	67	12	1
	(8)	(83)	(−1)		2525	62
27.647	10359	−70	+ 7	71	6	1
N−3	10356	−33	+31	45	194	1
	10355	−25	+12	27	61	1
	10350	+ 9	+ 9	13	242	5
	10350	+15	+ 9	18	121	8
	10350	+21	+ 9	23	145	12
	10350	+24	+ 7	25	485	3
	10347	+48	−11	49	194	1
	10357	+57	+26	61	6	1
	10357	+60	+23	63	48	4
	10357	+62	+22	68	121	3
	10351	+59	+20	61	436	1
	10351	+67	+16	69	533	1
	10345	+63	−18	64	12	3
	(8)	(70)	(−1)		2604	45

MAY-JUNE

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
28.689	10356	−20	+30	37	121	1
W−1	10355	−10	+12	17	36	1
	10355	− 8	+13	15	24	1
	10350	+23	+ 9	24	194	4
	10350	+29	+ 9	30	73	2
	10350	+33	+ 7	34	36	1
	10350	+37	+ 9	38	48	3
	10350	+39	+ 8	40	485	1
	10347	+61	−11	61	194	1
	10651	+74	+19	75	436	1
	10351	+80	+16	80	291	2
	10357	+75	+23	78	97	1
	(6)	(56)	(−1)		2035	19
29.565	10359	−42	+ 6	43	24	5
W−4	10356	− 9	+31	33	85	1
	10356	− 7	+31	32	12	7
	10355	+ 1	+11	12	16	3
	10355	+ 2	+12	13	6	1
	10360	+ 5	−11	11	48	1
	10360	+ 7	−12	13	24	4
	10350	+35	+ 9	37	109	12
	10350	+40	+ 8	41	12	1
	10350	+50	+ 8	51	679	7
	10350	+51	+11	52	24	1
	10347	+74	−11	74	170	1
	10351	+88	+19	88	436	1
	(7)	(45)	(−1)		1645	45
30.569	10359	−32	+ 6	33	36	4
W−4	10359	−28	+ 5	29	73	14
	10356	+ 5	+31	33	97	1
	10355	+17	+13	22	12	4
	10360	+19	−11	21	12	1
	10350	+49	+ 9	50	48	7
	10350	+59	+11	60	24	2
	10350	+63	+ 9	64	679	4
	(5)	(32)	(−1)		981	37
31.692	10361	−26	+17	32	36	3
N−4	10359	−17	+ 6	18	97	5
	10359	−15	+ 5	16	36	4
	10359	−12	+ 5	13	242	9
	10356	+17	+31	36	73	2
	10350	+78	+ 9	79	679	1
	(4)	(17)	(−1)		1163	24

Mean for 30 days
A=1667, r=111.4

1.708	10364	−61	+ 9	62	12	2
N−3	10361	−12	+17	22	12	7
	10359	− 3	+ 5	6	194	19
	10359	+ 3	+ 5	6	267	14
	10363	+ 5	+16	18	36	5
	10363	+ 7	+13	15	48	1
	10362	+18	+17	25	12	4
	10356	+30	+31	43	24	2
	10355	+45	+10	47	12	1
	(7)	(3)	(−1)		617	55
2.655	10365	−78	+ 5	79	109	1
N−2	10364	−49	+ 9	50	48	1
	10364	−47	+ 8	48	24	7
	10359	+10	+ 5	12	194	16
	10359	+17	+ 5	19	291	10
	10363	+17	+16	25	12	10
	10363	+20	+15	25	24	1
	10362	+32	+16	35	61	4
	10355	+60	+ 9	61	12	3
	(6)	(351)	(−1)		775	53
3.561	10365	−65	+ 5	65	73	8
W−3	10364	−37	+ 9	38	24	4
	10364	−34	+ 9	35	24	10
	10359	+22	+ 5	23	170	8
	10359	+25	+ 4	26	48	12
	10359	+29	+ 4	29	291	1
	10363	+33	+15	37	12	3
	10355	+72	+ 9	72	97	3
	(5)	(339)	(0)		739	49
4.780	10365	−49	+ 4	49	48	7
N−4	10364	−23	+ 9	25	48	5
	10364	−17	+ 9	20	24	3
	10366	−18	+18	26	12	8
	10366	−15	+17	23	24	2
	10359	+37	+ 5	38	109	9
	10359	+41	+ 4	41	97	4
	10359	+44	+ 5	44	145	12
	10359	+46	+ 5	46	242	1
	10363	+50	+15	52	12	1
	(5)	(323)	(0)		761	52
5.684	10365	−37	+ 4	38	24	4
N−3	(*)	−32	−35	45	6	1
	(*)	−26	−34	42	12	2
	10364	− 9	+ 9	12	12	1
	10366	− 1	+18	18	12	1
	10359	+49	+ 5	49	61	1
	10359	+53	+ 4	53	121	4
	10359	+59	+ 4	59	388	4
	(6)	(311)	(0)		636	18
6.647	10368	−50	+13	52	61	1
N−2	10367	−30	+10	32	24	2
	10365	−24	+ 4	25	48	2
	10359	+61	+ 6	62	48	1
	10359	+66	+ 5	66	121	1
	10359	+71	+ 5	71	388	2
	(4)	(298)	(0)		690	9
7.651	10368	−37	+13	40	61	4
W−2	10365	−12	+ 4	13	36	1
	10365	− 9	+ 4	10	97	5
	10371	+19	+10	21	24	4
	10370	+25	−10	27	12	2
	10369	+48	+20	52	36	4
	10359	+78	+ 6	78	97	1
	10359	+85	+ 5	85	73	1
	(6)	(285)	(0)		436	22

JUNE

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
8.681	10373	−80	−17	80	97	2
N−3	10373	−78	−19	78	582	1
	10367	− 3	+ 9	10	24	5
	10365	+ 2	+ 3	3	6	1
	10365	+ 5	+ 3	6	24	3
	10370	+37	−11	38	12	1
	10370	+39	−10	40	6	1
	10372	+38	+17	41	145	10
	(*)	+58	+ 9	58	6	1
	(6)	(271)	(0)		902	25
9.647	10373	−80	−21	80	582	2
N−3	10373	−69	−17	69	97	1
	10373	−64	−17	65	145	5
	10373	−63	−20	65	873	1
	10365	+18	+ 4	19	48	5
	10365	+20	+ 4	21	12	1
	10372	+49	+17	51	48	8
	10372	+54	+18	56	73	1
	10370	+53	−11	55	97	11
	(4)	(258)	(0)		1975	35
10.799	10373	−70	−20	71	73	1
N−3	10373	−68	−23	70	218	1
	10373	−66	−21	67	145	1
	10373	−56	−17	58	12	1
	10373	−50	−19	53	558	1
	10373	−50	−17	53	121	2
	10373	−47	−19	50	315	1
	10373	−43	−17	46	6	1
	10367	+25	+ 7	26	12	1
	10365	+34	+ 4	34	73	4
	10374	+62	+ 9	62	36	2
	10370	+67	−10	67	121	5
	10372	+68	+18	68	194	2
	(6)	(243)	(0)		1884	23
11.769	10373	−56	−23	59	97	2
N−2	10373	−53	−24	57	145	14
	10373	−51	−23	55	48	1
	10373	−51	−21	54	12	3
	10373	−40	−19	43	12	1
	10373	−37	−21	41	582	2
	10373	−36	−19	40	97	1
	10373	−33	−21	39	315	2
	(*)	−20	+ 4	20	12	2
	(*)	− 3	+ 8	7	24	10
	(*)	0	+ 7	6	48	1
	10377	+10	+14	15	12	1
	10365	+46	+ 5	46	12	1
	10374	+76	+ 9	76	48	1
	10372	+80	+19	80	194	2
	(8)	(230)	(+1)		1658	44
12.659	10379	−85	−21	85	12	1
N−3	10379	−80	−19	80	12	1
	10379	−80	−17	80	73	1
	10373	−45	−20	48	6	1
	10373	−42	−22	46	61	20
	10373	−41	−17	44	218	7
	10373	−29	−18	34	12	2
	10373	−25	−18	32	145	8
	10373	−25	−20	32	642	1
	10373	−22	−20	30	388	1
	10375	+ 9	+10	12	12	6
	10377	+24	+14	28	24	2
	(4)	(218)	(+1)		1605	51
13.649	10380	−85	+16	85	145	1
N−4	10380	−73	+17	74	24	1
	10379	−69	−22	70	97	1
	10379	−68	−17	68	48	1
	10379	−68	−19	69	97	2
	10379	−63	−18	65	145	3
	10373	−31	−19	36	36	1
	10373	−29	−22	35	194	9
	10373	−27	−21	34	48	1
	10373	−14	−18	23	97	9
	10373	−12	−19	22	436	1
	10373	− 9	−19	21	388	5
	10377	+39	+13	41	97	18
	10378	+76	+19	76	48	6
	(5)	(205)	(+1)		1900	59
14.648	10380	−70	+16	70	121	3
N−4	10380	−60	+17	60	36	1
	10379	−55	−17	57	121	2
	10379	−55	−21	58	24	1
	10379	−49	−18	52	145	5
	10373	−18	−19	27	48	5
	10373	−15	−22	28	145	6
	10373	− 3	−18	19	48	2
	10373	+ 2	−19	20	509	1
	10373	+ 3	−17	18	242	6
	10373	+ 4	−19	21	291	1
	10381	+13	+ 6	14	12	1
	10377	+52	+13	53	97	5
	(5)	(192)	(+1)		1839	39
15.569	10380	−58	+17	58	97	1
W−3	10380	−48	+17	51	24	2
	10379	−42	−17	45	48	10
	10379	−41	−19	45	24	1
	10379	−37	−18	41	97	2
	10373	− 5	−19	21	48	6
	10373	− 2	−22	23	97	10
	10373	+11	−17	22	48	15
	10373	+14	−18	24	194	3
	10373	+14	−19	23	509	1
	10373	+18	−19	26	291	1
	10381	+27	+ 6	28	6	1
	10377	+65	+13	65	48	9
	10377	+69	+11	69	12	1
	10377	+71	+12	71	12	5
	(5)	(180)	(+1)		1555	68
16.672	10382	−72	+ 9	72	436	1
N−3	10380	−43	+16	45	109	1
	10380	−33	+17	36	12	1
	10379	−29	−18	33	48	1
	10379	−27	−21	34	73	1
	10379	−21	−19	29	97	1
	10373	+11	−21	25	48	1
	10373	+25	−17	32	73	4

JUNE

U.T.	No.	Δl	φ	ρ	A	s.
		°	°	°		
	10373	+29	−20	35	436	1
	10373	+30	−18	35	206	1
	10373	+31	−19	36	291	1
	10373	+31	−23	39	48	1
	(4)	(165)	(+1)		1877	15
17.670	10382	−59	+ 8	59	388	1
N−3	10380	−31	+16	33	73	1
	10380	−20	+17	25	12	1
	10379	−15	−18	23	6	1
	10379	−14	−20	25	12	1
	10379	− 8	−18	21	73	1
	10373	+42	−19	45	388	1
	10373	+43	−17	46	173	2
	10373	+44	−18	46	291	1
	10373	+46	−23	51	24	1
	(4)	(152)	(+1)		1440	11
18.675	10382	−47	+ 8	47	339	1
N−2	10380	−18	+16	23	73	1
	10380	− 7	+17	17	12	1
	10380	+ 3	+17	17	12	1
	10379	− 1	−18	19	73	3
	10379	0	−20	21	48	1
	10379	+ 7	−18	20	61	1
	10373	+42	−18	45	36	1
	10373	+57	−19	59	873	1
	(4)	(139)	(+1)		1527	11
19.676	10382	−34	+ 9	35	12	1
N−2	10382	−33	+ 8	34	388	1
	10382	−30	+ 7	31	24	1
	10380	− 5	+16	16	61	1
	10379	+15	−19	26	24	1
	10379	+19	−18	27	73	1
	10379	+27	−17	32	24	2
	10373	+70	−19	72	873	1
	(4)	(125)	(+2)		1479	9
20.646	10383	−85	+14	85	73	1
N−3	10382	−20	+ 8	22	339	1
	10382	−18	+ 8	19	24	6
	10380	+ 8	+16	16	36	1
	10379	+32	−18	37	48	1
	10373	+84	−19	84	727	1
	(5)	(113)	(+2)		1247	11
21.822	10383	−70	+13	70	97	1
N−2	10384	−50	+ 8	51	36	1
	10384	−50	+12	52	24	1
	10384	−47	+ 8	47	61	2
	10382	− 5	+ 8	8	315	1
	10380	+23	+16	27	24	1
	(4)	(97)	(+2)		557	7
22.695	10386	−70	+10	70	12	1
N−2	10387	−68	+ 4	68	12	2
	10383	−63	+13	64	48	1
	10383	−59	+12	60	97	1
	10684	−39	+ 9	40	170	8

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	10384	−33	+ 8	34	73	1
	10382	0	+12	10	24	1
	10382	+ 7	+ 8	11	339	1
	10380	+34	+17	36	24	1
	10385	+48	−13	51	36	1
	(7)	(85)	(+2)		835	18
23.716	10389	−72	+ 4	72	12	4
N−4	10386	−57	+10	58	24	3
	10386	−53	+ 4	53	12	5
	10383	−50	+13	52	73	1
	10383	−49	+16	51	12	3
	10383	−45	+13	46	145	1
	10388	−41	−14	43	24	8
	10384	−26	+ 9	27	170	8
	10384	−20	+ 8	22	291	9
	10384	−19	+13	22	12	4
	10382	+20	+ 8	22	291	1
	10380	+50	+18	52	24	2
	10385	+58	−13	60	48	1
	10385	+61	−14	63	36	1
	(8)	(72)	(+2)		1174	51
24.656	10389	−60	+ 4	60	12	1
N−3	10386	−45	+10	46	97	7
	10391	−42	+21	44	24	2
	10387	−40	+ 4	40	12	1
	10383	−37	+14	39	24	2
	10383	−33	+13	34	97	1
	10388	−26	−14	31	24	3
	10384	−12	+ 9	14	242	10
	10384	− 5	+ 8	8	291	4
	10382	+28	+12	30	24	1
	10382	+32	+ 8	33	291	4
	(8)	(60)	(+2)		1138	36
25.649	10389	−46	+ 4	46	12	1
N−3	10386	−36	+12	37	48	2
	10386	−29	+11	31	24	1
	10391	−29	+21	34	6	1
	10387	−26	+ 4	26	12	2
	10383	−20	+14	23	97	3
	10388	−13	−14	21	73	15
	10384	+ 3	+10	8	242	20
	10384	+ 9	+ 8	11	339	4
	10382	+45	+ 8	46	339	2
	(8)	(46)	(+2)		1192	51
26.650	10386	−22	+11	23	24	2
N−3	10386	−15	+10	17	12	1
	(*)	− 9	+15	15	6	6
	10383	− 6	+13	13	36	5
	10388	− 3	−17	19	97	8
	10388	+ 2	−14	16	97	13
	10384	+16	+ 9	17	242	30
	10384	+21	+ 8	23	12	4
	10384	+23	+ 8	24	388	1
	10390	+53	−15	55	6	1
	10382	+58	+ 8	58	339	2
	(7)	(33)	(+2)		1259	73

JUNE

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
27.646	10386	− 1	+11	9	6	1
N–3	10383	+ 8	+13	14	12	1
	10388	+11	−17	22	85	9
	10388	+17	−14	23	97	3
	10384	+28	+11	30	242	13
	10384	+33	+10	34	12	3
	10384	+38	+ 9	39	436	1
	10382	+72	+ 9	72	291	1
	(5)	(20)	(+2)		1181	32
28.653	10383	+22	+15	25	12	1
N–3	10388	+24	−16	30	24	3
	10388	+31	−14	35	61	2
	10384	+42	+11	42	121	15
	10384	+49	+10	49	12	3
	10384	+51	+ 9	51	339	1
	(3)	(7)	(+3)		569	25

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
29.647	10395	−76	+20	76	145	1
N–2	10393	+16	−17	25	121	10
	10388	+37	−16	42	12	1
	10388	+44	−14	47	61	1
	10384	+55	+11	55	61	2
	10384	+65	+ 9	65	436	2
	(4)	(353)	(+3)		836	17
30.650	10397	−68	−29	71	48	1
N–4	10397	−62	−26	67	61	2
	10395	−61	+20	63	194	1
	10393	+26	−17	32	48	10
	10393	+30	−18	36	36	2
	10393	+33	−17	39	97	8
	10388	+58	−14	61	24	1
	10384	+78	+ 9	78	485	2
	(5)	(340)	(+3)		993	27

Mean for 30 days, A=1176, r=87.5